

Abstract

Project Code : TRG5780201

Project Title : Preclinical evaluation of lipid lowering effect and acute toxicity of Thai herbal formulary, Chatuphalatika

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Abstract:

Chatuphalatika is a Thai herbal formulation consisted of equal parts of the *Terminalia chebula* Retzr., *T. belerica* Linn., *T. arjuna* Roxb. (Combretaceae) and *Phyllanthus emblica* L. (Euphorbiaceae). This herbal formulation is claimed to exert effects on weight loss and decreased fatty liver. The present study was aimed to evaluate lipid lowering effect and acute toxicity of Chatuphalatika aqueous extract (CE). Phytochemical study indicated that CE was rich in phenolic compound as 423.03 ± 4.57 mg gallic acid equivalent/g of extract. The content of chebulagic acid, gallic acid and ellagic acid was 32.92 ± 0.19 , 20.47 ± 0.40 and 1.81 ± 0.03 mg/g of extract, respectively. The acute oral toxicity test at dose 5,000 mg/kg body weight showed no toxic effect or mortality.

Lipid lowering effect was evaluated using high fat diet (HFD) induced hypercholesterolemia in mice compared with atorvastatin. Results revealed that at 6 weeks of CE 1,000 mg/kg body weight administered orally, HFD fed mice showed statistically significant decreased in total cholesterol and triglyceride levels when compared to hypercholesterolemia control group ($p < 0.01$). CE demonstrated higher potential in lipid lowering effect than did atorvastatin 10 mg/kg body weight. Body weight gain, total cholesterol and triglyceride levels of mice treated with CE at the dose of 1,000 mg/kg were not statistically significant to those found in mice fed with normal diet ($p > 0.05$). The obtained data demonstrated a potential anti-obesity effect of CE and concluded that orally given CE at the dose of 1,000 mg/kg body weight exerted anti-hyperlipidemic activity with no observed toxic effect.

Keywords : Chatuphalatika, hyperlipidemia, cholesterol, high fat diet